

FEB 11 2009

UNITED STATES VIRGIN ISLANDS
DEPARTMENT OF PLANNING AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
PUBLIC WATER SYSTEM SUPERVISION PROGRAM



Primacy Revision Application Package

January 2009

REGULATION	PROMULGATION
LCR Tech Corrections	June 30, 1994
Technical Amendments to Clarify Language, Correct Typographical Errors	July 1, 1994
Analytical Methods Tech Corrections	June 29, 1995
Analytical Methods for Radionuclides	March 5, 1997
Primacy Revisions <ul style="list-style-type: none"> • Ad. Pen. • Emer. Plan • Pws Def.. 	April 28, 1998
Removal of Prohibition of POU	June 11, 1998
Variance and Exemptions	August 14, 1998
Consumer Confidence Report <ul style="list-style-type: none"> • 12/16/98 Tech Corrections • 6/29/99 Tech Corrections • 9/14/99 Tech Corrections • 5/4/00 Tech Corrections • 11/27/02 Tech Corrections • 12/09/02 Tech Corrections 	August 19, 1998
Stage 1 DBPR	December 16, 1998
IESWTR	December 16, 1998
Suspension of UCM for Small Systems	January 8, 1999
Analytical Methods and Lab Cert Revisions	December 1, 1999
LCR Minor Rev.	January 12, 2000
Rev. to IESWTR/ Stage 1 DBPR <ul style="list-style-type: none"> • 6/13/00 withdrawal of Direct Final Rule 	April 14, 2000
Public Notification <ul style="list-style-type: none"> • 6/21/00 Tech Corrections • 6/30/00 Tech Corrections 	May 4, 2000
Removal of MCLG for Chloroform from the NPDWRs	May 30, 2000
Radionuclides	December 7, 2000
Revisions to IESWTR/Stage <ul style="list-style-type: none"> • 02/12/01 Tech. Correction 	January 16, 2001
Guidelines for Test Procedures for Analysis of Pollutants under CWA; NPDWRs; Nat. Secondary DW Regs; Methods Update <ul style="list-style-type: none"> • 5/15/01 Withdrawal of Direct Final Rule 	January 16, 2001
Arsenic Rule <ul style="list-style-type: none"> • 03/25/03 Minor Clarification 	January 22, 2001
Contaminant Monitoring - Clarifications and New Source Requirements	January 22, 2001
Rev. IESWTR/Stage 1 DBPR, Rev. to State Primacy Req. to Implement SDWA Amendments	February 12, 2001
NPDWRs Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring; Delay of Effective Date	May 22, 2001
FBRR	June 8, 2001

REGULATION	PROMULGATION
LT1 ESWTR	January 14, 2002
Methods Update Final Rule	October 23, 2002
NPDWR Minor Revisions to PN Rule, CCR Rule, Primacy Rule • 12/9/02 Correction	November 27, 2002
Minor Clarifications of NPDWRs for Arsenic	March 25, 2003
Approval of Additional Method for the Detection of Coliforms and E. Coli	February 13, 2004
Minor Corrections and Clarification to DW Regs, NPDWRs for LCR	June 29, 2004
Analytical Method for Uranium	August 25, 2004

Table of Contents

Primacy Revision Application Package

- I. Text of the State Regulation
- II. Attorney General's (AG) Statement of Enforceability
- III. The State Primacy Revision Checklist
 - Consumer Confidence Report (CCR)
 - Filter Backwash Recycling Rule (FBRR)
 - Interim Enhanced Surface Water Treatment Rule (IESWTR)
 - Lead Copper Rule Minor Revision (LCRMR)
 - LT1 Enhanced Surface Water Treatment Rule (ESWTR)
 - LT2 ESWTR
 - Public Notification
 - Radionuclides
 - ~~Radon~~
 - Stage 1 Disinfectants and Disinfection Byproducts Rule (DBPR)
 - Surface Water Treatment Rules (SWTR)
- IV. Primacy Revision Crosswalk
 - Consumer Confidence Report (CCR)
 - Filter Backwash Recycling Rule (FBRR)
 - Interim Enhanced Surface Water Treatment Rule (IESWTR)
 - Lead Copper Rule Minor Revision (LCRMR)
 - LT1 Enhanced Surface Water Treatment Rule (ESWTR)
 - LT2 ESWTR
 - Public Notification
 - Radionuclides
 - ~~Radon~~
 - Stage 1 Disinfectants and Disinfection Byproducts Rule (DBPR)
 - Surface Water Treatment Rules (SWTR)
- V. State Reporting and Record keeping Checklists
 - Consumer Confidence Report (CCR)
 - Lead Copper Rule Minor Revision (LCRMR)
 - Public Notification (PN)
 - Radionuclides
 - Stage 1 Disinfectants and Disinfection Byproducts Rule (DBPR)
- VI. Special Primacy Requirements
 - Lead Copper Rule Minor Revision (LCRMR)
 - Public Notification
 - Radionuclides
 - Stage 1 Disinfectants and Disinfection Byproducts Rule (DBPR)
- VII. Emergency Operations Plan

Section I

TEXT OF THE STATE REGULATION

Major Rules

Consumer Confidence Report (CCR)
Filter Backwash Recycling Rule
Interim Enhanced Surface Water Treatment (IESWT)
Lead Copper Rule, Minor Revision (LCRMR)
Long Term 1 Enhanced Surface Water Treatment Rule
Public Notification (PN)
Radionuclide Rule
Stage 1 Disinfectants and Disinfection Byproducts Rule (DBPR)
Variances and Exemptions

Minor Rules

Lead and Copper Technical Corrections Rule
Analytical Methods Technical Corrections Rules
Analytical Methods for Radionuclide Rule
Administrative Penalty Authority
Emergency Plan Revisions
Public Water System Definition
Suspension of UCMR for Small Systems

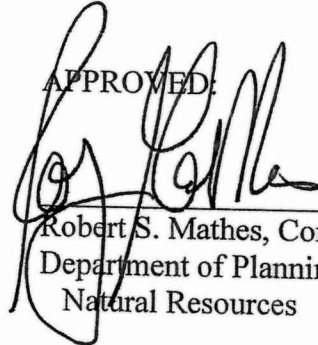
**UNITED STATES VIRGIN ISLANDS
PRIMARY DRINKING WATER STANDARDS
RULES AND REGULATIONS
TITLE 19, CHAPTER 51, SUBCHAPTER I**



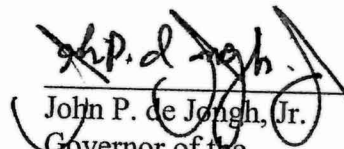
**GOVERNMENT OF THE VIRGIN ISLANDS
DEPARTMENT OF PLANNING AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION**

**UNITED STATES VIRGIN ISLANDS
PRIMARY DRINKING WATER STANDARDS
RULES AND REGULATIONS
TITLE 19, CHAPTER 51, SUBCHAPTER I**

Dated: 2/27/08, 2008

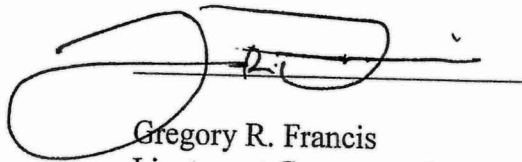
APPROVED:

Robert S. Mathes, Commissioner
Department of Planning and
Natural Resources

Dated: July 7,, 2008

APPROVED:

John P. de Jongh, Jr.
Governor of the
United States Virgin Islands

I, Gregory R. Francis, Lieutenant Governor of the United States Virgin Islands, have reviewed the foregoing Rules and Regulations, Title 19, Chapter 51, Subchapter I, find them to be in compliance with Title 3, Chapter 35, Virgin Islands Rules and Regulations, and hereby approve the same in accordance with 3 V.I.C. § 936.

Dated: JULY 22, 2008


Gregory R. Francis
Lieutenant Governor of the
United States Virgin Islands



THE UNITED STATES VIRGIN ISLANDS

OFFICE OF THE GOVERNOR
GOVERNMENT HOUSE
Charlotte Amalie, V.I. 00802
340-774-0001

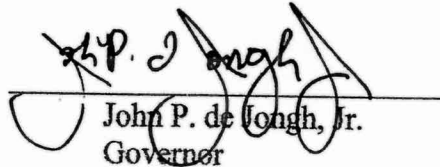
CERTIFICATE OF EFFECTIVENESS OF RULES AND REGULATIONS

WHEREAS, there Virgin Islands Rules & Regulations have not been formally published for several years; and

WHEREAS the attached Rules and Regulations, promulgated pursuant to Title 19, Chapter 51, Virgin Islands Code, governing the drinking water standards administered by the V.I. Department of Planning and Natural Resources are of critical importance to welfare of the residents of the United States Virgin Islands;

NOW THEREFORE, I, John P. de Jongh, Jr., Governor of the United States Virgin Islands, pursuant to the authority vested in me by Section 11 of the Revised Organic Act of the Virgin Islands of 1954, as amended, and 3 V.I.C. § 938, do hereby certify that the attached Rules and Regulations which I have approved, are effective this day without the delay of prior publication.

Dated: July 7, 2008


John P. de Jongh, Jr.
Governor

TITLE NINETEEN

HEALTH

PART VI. REGULATORY PROVISIONS CONCERNING PUBLIC HEALTH

Chapter 51. Drinking Water Standards

Subchapter 1303. Virgin Islands Primary Drinking Water Standards

Table of Contents

Section No.	Section Title	Page No.
§ 1303-11.	Applicability	1
§ 1303-12.	Definitions	2
§ 1303-13.	Coverage	3
§ 1303-14.	Variances or Exemptions	4
§ 1303-15.	Siting requirements	4
§ 1303-16.	Effective dates	4
§ 1303-17.	Requirements for water used for human consumption that is transported by truck or tanker.	4
§ 1303-21.	Maximum contaminant levels for inorganic chemicals	6
§ 1303-22.	Maximum contaminant levels for organic chemicals	6
§ 1303-23.	Maximum contaminant levels for turbidity	6
§ 1303-24.	Maximum microbiological contaminant levels	7
§ 1303-25.	Maximum contaminant levels for radionuclides	7
§ 1303-26.	Prohibition on the use of lead pipes, solder and flux	7
§ 1303-27.	Variances and exemptions from the Maximum Contaminant Levels for Regulated Contaminants	7
§ 1303-28.	Use of Bottled Water	7
§ 1303-29.	Criteria and procedures for public water systems using point-of-entry devices	7
§ 1303-30.	Bottled water regulations	7
§ 1303-41.	Microbiological contaminant sampling and analytical requirements	11
§ 1303-42.	Inorganic chemical sampling and analytical requirements	22
§ 1303-43.	Organic chemicals other than trihalomethanes, sampling and analytical requirements	23
§ 1303-44.	Analytical methods for radioactivity	23
§ 1303-45.	Monitoring frequency for radioactivity in community water systems	23
§ 1303-46.	Alternative analytical technique	23
§ 1303-47.	Approved laboratories	23
§ 1303-48.	Monitoring of consecutive public water systems	23
§ 1303-49.	Reporting requirements	23
§ 1303-50.	Record maintenance	24
§ 1303-51.	Special monitoring for sodium	24

United States Virgin Islands
Primary Drinking Water Standards

Section No.	Section Title	Page No.
§ 1303-52.	Special monitoring for corrosivity characteristics	24
§1303-53.	General requirements for the control of lead and copper	24
§1303-54.	Applicability of corrosion control treatment steps to small, medium-size and large water systems for the control of lead and copper	24
§1303-55.	Description of corrosion control treatment requirements for the control of lead and copper	24
§1303-56.	Source water treatment requirements for the control of lead and copper	24
§1303-57.	Lead service line replacement requirements for the control of lead and copper	24
§1303-58.	Public education and supplemental monitoring requirements for the control of lead and copper	25
§1303-59.	Monitoring requirements for lead and copper in tap water	25
§1303-60.	Monitoring requirements for water quality parameters for the control of lead and copper	25
§1303-61.	Monitoring requirements for lead and copper in source water	25
§1303-62.	Analytical methods for the control of lead and copper	25
§1303-63.	Maximum contaminant levels for disinfection byproducts	25
§1303-64.	Maximum residual disinfectant levels	25
§1303-65.	General requirements for filtration and disinfection	25
§1303-66.	Criteria for avoiding filtration	26
§1303-67.	Disinfection	26
§1303-68.	Filtration	26
§1303-69.	Filtration and disinfection: analytical and monitoring requirements	26
§1303-70.	Filtration and disinfection: reporting and recordkeeping requirements	26
§1303-71.	Filter recycling requirements	26
§1303-72.	Recordkeeping requirements for lead and copper control	26
§1303-73.	General requirements for treatment techniques	26
§1303-74.	Treatment techniques for acrylamide and epichlorohydrin	27
§1303-75.	Disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors: general requirements	27
§1303-76.	Disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors: analytical requirements	27
§1303-77.	Disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors: monitoring requirements	27

United States Virgin Islands
Primary Drinking Water Standards

Section No.	Section Title	Page No.
§1303-78.	Disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors: compliance requirements	27
§1303-79.	Disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors: reporting and recordkeeping requirements	27
§1303-80.	Treatment technique for control of disinfection byproduct precursors	27
§1303-81.	Applicability of requirement for consumer confidence reports	28
§1303-82.	Effective dates for required consumer confidence reports	28
§1303-83.	Content of consumer confidence reports	28
§1303-84.	Required additional health information for consumer confidence reports	28
§1303-85.	Report delivery and recordkeeping for consumer confidence reports	28
§1303-86.	General requirements for enhanced filtration and disinfection for subpart H systems serving at least 10,000 people	28
§1303-87.	Criteria for avoiding filtration for subpart H systems serving at least 10,000 people	28
§1303-88.	Disinfection profiling and benchmarking for subpart H systems serving at least 10,000 people	28
§1303-89.	Enhanced filtration requirements for subpart H systems serving at least 10,000 people	29
§1303-90.	Enhanced filtration sampling requirements for subpart H systems serving at least 10,000 people	29
§1303-91.	Enhanced filtration and disinfection reporting and recordkeeping requirements for subpart H systems serving at least 10,000 people	29
§1303-92.	General Requirements for Public Notification	29
§1303-93.	Tier 1 public notice - form, manner, and frequency of notice	29
§1303-94.	Tier 2 public notice - form, manner, and frequency of notice	29
§1303-95.	Tier 3 public notice - form, manner, and frequency of notice	29
§1303-96.	Content of public notice	30
§1303-97.	Notice to new billing units or new customers	30
§1303-98.	Special notice of availability of results of unregulated contaminant monitoring	30
§1303-99.	Special notice exceedance of the secondary maximum contaminant level (SMCL) for fluoride	30
§1303-100.	Special notice for nitrate exceedances above MCL by non-community water supply systems (NCWSS)	30
§1303-101.	Notice by department on behalf of the public water supply system	30
§1303-102.	General requirements for enhanced filtration and disinfection for subpart H systems serving fewer than 10,000 people	30

United States Virgin Islands
Primary Drinking Water Standards

Section No.	Section Title	Page No.
§1303-103.	Applicability of general requirements for enhanced filtration and disinfection for subpart H systems serving fewer than 10,000 people	31
§1303-104.	Effective dates of requirements for enhanced filtration and disinfection for subpart H systems serving fewer than 10,000 people	31
§1303-105.	Compliance criteria for enhanced filtration and disinfection for subpart H systems serving fewer than 10,000 people	31
§1303-106.	Identifying applicable systems for new finished water reservoir requirements for subpart H systems serving fewer than 10,000 people	31
§1303-107.	New finished water reservoir requirements for subpart H systems serving fewer than 10,000 people	31
§1303-108.	Identifying applicable systems for updated watershed control requirements for subpart H systems serving fewer than 10,000 people	31
§1303-109.	Updated watershed control requirements for unfiltered subpart H systems serving fewer than 10,000 people	31
§1303-110.	State determination of adequate updated watershed control requirements for unfiltered subpart H systems serving fewer than 10,000 people	32
§1303-111.	Disinfection profiling for subpart H systems serving fewer than 10,000 people	32
§1303-112.	Criteria for avoiding disinfection profiling in subpart H systems serving fewer than 10,000 people	32
§1303-113.	Effective dates for required disinfection profiling in subpart H systems serving fewer than 10,000 people	32
§1303-114.	Collection of disinfection profile data for subpart H systems serving fewer than 10,000 people	32
§1303-115.	Calculation of inactivation ratio for subpart H systems serving fewer than 10,000 people	32
§1303-116.	Inactivation ratio for viruses in subpart H systems serving fewer than 10,000 people	32
§1303-117.	Retention of disinfection profile data for subpart H systems serving fewer than 10,000 people	33
§1303-118.	Disinfection benchmark for subpart H systems serving fewer than 10,000 people	33
§1303-119.	Significant changes to disinfection practice in subpart H systems serving fewer than 10,000 people	33
§1303-120.	Consultation regarding significant change to disinfection practice for subpart H systems serving fewer than 10,000 people	33
§1303-121.	Calculation of disinfection benchmark for subpart H systems serving fewer than 10,000 people	33
§1303-122.	Disinfection benchmark for primary disinfectants other than chlorine for subpart H systems serving fewer than 10,000 people	33

United States Virgin Islands
Primary Drinking Water Standards

Section No.	Section Title	Page No.
§1303-123.	Requirements for combined filter effluent turbidity in subpart H systems serving fewer than 10,000 people	33
§1303-124.	Limits for strengthened combined filter effluent turbidity in subpart H systems serving fewer than 10,000 people	34
§1303-125.	Alternative filtration demonstration for subpart H systems serving fewer than 10,000 people	34
§1303-126.	Special provisions for combined filter effluent in subpart H systems serving fewer than 10,000 people	34
§1303-127.	Requirements for individual filter turbidity in subpart H systems serving fewer than 10,000 people	34
§1303-128.	Contingency requirements for individual filter turbidity in subpart H systems serving fewer than 10,000 people	34
§1303-129.	Special provision for continuous monitoring of combined filter effluent turbidity in subpart H systems serving fewer than 10,000 people	34
§1303-130.	Follow-up actions to monitoring of individual filter turbidity for subpart H systems serving fewer than 10,000 people	34
§1303-131.	Special provision for alternative turbidity exceedance levels in subpart H systems serving fewer than 10,000 people	35
§1303-132.	Reporting requirements for enhanced filtration and disinfection for subpart H systems serving fewer than 10,000 people	35
§1303-133.	Recordkeeping requirements for enhanced filtration and disinfection for subpart H systems serving fewer than 10,000 people	35
§ 1309-1.	Administrative assessment of civil fines and penalties	36
§ 1309-2.	Penalties and Remedies	44

TITLE NINETEEN

HEALTH

PART VI. REGULATORY PROVISIONS CONCERNING PUBLIC HEALTH

Chapter 51. Drinking Water Standards

Subchapter 1303. Virgin Islands Interim Primary Drinking Water Standards

§ 1303-11. Applicability

Except as provided in this subchapter, the provisions found in Parts 141, 142 Subparts E, F and G and 143 of Title 40 of the Code of Federal Regulations (CFR), as published July 1, 2008 and annually thereafter, and the requirements contained therein, are adopted and herein incorporated by reference into the Virgin Islands Rules and Regulations Subchapter 1303. The authority to adopt by incorporation by reference is found in the Amendment to Title 19, Chapter 51 of the Virgin Islands Code pertaining to the Safe Drinking Water Act, pursuant to Act No. 6433, October 9, 2001, allowing for the promulgation and enforcement of discretionary changes to the National Regulations as are necessary and appropriate to the circumstances in the Virgin Islands.

Source. Sections 1303-11 to 1303-53: Regulations to provide for Virgin Islands Interim Primary Drinking Water Standards issued by the Department of Conservation and Cultural Affairs, dated June 16, 1977, and approved by the Governor. Filed with Lieutenant Governor June 16, 1977; File No. 986. Amended October 13, 1994 adding Sections 1303-54 through 1303-70. Amended July 22, 2008 by adopting the July 1, 2008, 40 CFR 141 142, E, F, and G, and 143 by reference and repealing or adopting by reference rule language except where unique and/or more stringent language than the federal language applies.

Authority. 19 V.I.C. §1303.

Publication. The regulations set out as chapter 51, Drinking Water Standards, contained a certificate which provided such regulations shall take effect without the usual prior publication because of compelling circumstances. The promulgation of these regulations by June 24, 1977 was necessary in order to permit the transfer of primary enforcement responsibility from the United States Environmental Protection Agency to the Department of Conservation and Cultural Affairs of the Virgin Islands, effective July 1, 1977. Similarly, Amendments promulgated in 1994 and in 2008 updated the regulations to maintain primacy for the Virgin Islands Government for the enforcement of amended standards mandated by the Federal Safe Drinking Water Act.

§ 1303-12. Definitions

(a) For the purposes of subchapter 1303, the definitions contained in 40 CFR 141.2, as published on July 1, 2008 and annually thereafter, are hereby adopted by reference with the following alterations:

(1) The definition of "Public Water System or PWS" shall be replaced with the following: "Public water system" means a system for the provision to the public of piped water for human consumption through pipes or, after August 5, 1998, other constructed conveyances, if such system has at least eight (8) service connections or regularly serves an average of at least twenty (20) individuals daily at least sixty (60) days out of the year. Such term includes any source, treatment, storage, or distribution facilities under control of the operator of the system and used primarily in connection with the system, and any source, treatment, storage, or distribution facilities not under such control but which are used in connection with the system. Such term does not include any "special irrigation district." A public water system is either a "community water system" or a "non-community water system."

(2) The definition of "Community water system" shall be replaced with the following: "Community water system" means a public water supply system which has at least eight (8) service connections used by year-round residents or that regularly serves at least twenty (20) year-round residents.

(3) The definition of "Non-transient non-community water system" shall be replaced with the following: "Non-transient non-community water system or NTNCWS" means a public water system that is not a community water system and that regularly serves at least twenty (20) of the same persons over 6 months per year.

(4) The definition of "Transient non-community water system" shall be replaced with the following: "Transient non-community water system or TWS" means a non-community water system that does not regularly serve at least twenty (20) of the same persons over six months per year.

(b) As used in this chapter, the term:

(1) "Approved laboratory" means a laboratory approved by the DPNR or certified by the U.S. EPA.

(2) "Approved source" when used in reference to a bottled water plant's product water or water used in the plant's operations, means the source of water whether it be from a spring, artisan well, drilled well, public or community water system or any other source that has been

United States Virgin Islands
Primary Drinking Water Standards

inspected and the water sampled, analyzed, and found to be of safe and sanitary quality. The presence in the plant of a current certificate or notification of approval from the DPNR shall constitute approval of the source.

(3) "Artesian water" means bottled water from a well tapping a confined aquifer in which the water level stands above the water table. Artesian water shall meet the requirements of natural water.

(4) "Bottled water" means water that is placed in a sealed container or package and is offered for sale for human consumption or other consumer uses.

(5) "Bottled water plant" means any place or establishment in which bottled water is prepared for sale.

(6) "DPNR" means the United States Virgin Islands, Department of Planning & Natural Resources. DPNR is the regulatory entity for all provisions of the Virgin Islands Safe Drinking Water Act. During any period when the Virgin Islands Government does not have primary enforcement responsibility pursuant to Section 1413 of the Act, the authority associated with DPNR is assumed by the Regional Administrator, U.S. Environmental Protection Agency.

(7) "Natural water" means bottled spring, mineral, artesian, or well water which is derived from an underground formation and is not derived from a municipal system or public water supply.

(8) "Plant operator" means any person who owns or operates a bottled water plant.

(9) "Spring water" means water derived from an underground formation from which water flows naturally to the surface of the earth.

(10) "Water dealer" means any person who imports bottled water or causes bulk water to be transported for bottling, human consumption or other consumer uses.

§ 1303-13. Coverage

The provisions of 40 CFR 141.3, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-14. Variances or Exemptions

- (a) The provisions set forth in 40 C.F.R. 141.4(a) as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.
- (b) The provision set forth in 40 C.F.R. 141.4(b) which stays the effective date for variances to the total coliform MCL and, therefore, allows variances to the total coliform MCL when the cause relates to biofilm growth is not adopted.

§ 1303-15. Siting requirements

The provisions of 40 CFR 141.5, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-16. Effective dates

- (a) The provisions of 40 CFR 141.6(j) and 141.60(b)(4), as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference with the exception that any reference to the effective date for arsenic of January 23, 2006 is replaced by January 1, 2006.
- (b) The following text shall be added: "All internal requirements regarding effective dates which have passed, completion dates which have passed, or beginning compliance dates which have passed within a C.F.R. that is adopted by reference shall be replaced with the date these regulations become effective."

§ 1303-17. Requirements for water used for human consumption that is transported by truck or tanker.

- (a) All trucks and tankers that are engaged in the transportation of water for human consumption shall be inspected and registered annually by the DPNR prior to being placed into service, to ensure their sanitary condition.

The first inspection shall be performed no later than sixty (60) days after the effective date of these regulations and during the month of January thereafter.

- (1) It is the presumption of these regulations that any water delivered by truck or tanker to a cistern or storage tank in a public water system or a private residence is water that is being transported for human consumption.

United States Virgin Islands
Primary Drinking Water Standards

- (2) A record of the current DPNR inspection and certification, in the form of a valid inspection sticker, must be displayed in a conspicuous location on the rear of the truck. If a current sticker is not affixed to a truck that transports water for human consumption then the truck is considered in violation of this section and subject to penalties under Section 1309-1 of the Virgin Islands Rules and Regulations.
- (b) All trucks or tankers that have transported any hazardous or toxic material(s) must be subject to inspection by the DPNR to ensure that such trucks or tankers are free of all hazardous or toxic material(s) before they will be allowed to transport water for human consumption.
- (c) All trucks and tankers transporting water for human consumption are required to maintain records indicating the frequency of cleaning and disinfecting of the trucks or tankers and the types of chemicals and materials used in the cleaning process. All records must be made available upon request of DPNR.
- (d) The truck or tanker operator must enter each load of water in a manifest which must describe, at a minimum: the source of the water; the date the water was loaded into the truck, the name and address of the recipient of the water; and the date of delivery.
- (e) The truck or tanker operator must make available upon request of a customer a written certificate that the water is from a source that is in compliance with the Virgin Islands Safe Drinking Water Act, and written proof of certification by the DPNR that the truck or tanker has passed inspection and has approval from the DPNR to transport water.
- (f) The Commissioner has the power, sixty (60) after this amendment goes into effect, to prohibit trucks and tankers that do not comply with these regulations from transporting water for human consumption.
- (g) After the effective date of these regulations no tanker truck that has been used to carry any product other than drinking water, milk or other products utilized for human consumption can be newly placed into service to transport potable water without express written permission from the Commissioner. All truckers and trucking companies in the business of transporting water for human consumption must maintain records of previous use for each tanker truck from its date of manufacture to the date it was put into service as a potable water hauler. These records must include any and all hazardous, toxic or special material or waste that was transported by the tanker truck in the past. These records must be made available upon request of DPNR.
- (1) If records indicate that a tanker truck has previously been used for transportation of hazardous or potentially toxic materials in the past, or if records do not exist to confirm hazardous or potentially toxic materials were not transported by that tanker truck, then the Commissioner may prohibit the trucking company from using that truck for the transportation

of water for human consumption.

- (i) The Commissioner may require sampling of water from the inside of a truck that may have transported hazardous or potentially toxic materials to be completed prior to use of a truck for transportation of water for human consumption. This sampling may, at the discretion of the Commissioner, be for any chemical, physical, microbiological and/or radiological contaminants.
- (h) After the effective date of these regulations trucks and tankers used for transporting water for human consumption may not be used for other purposes without prior written permission of the Commissioner.
- (i) After the effective date of these regulations, trucks and tankers used for the transporting of water for human consumption may only be used for transporting water for human consumption from water sources approved and regulated by DPNR. To be approved by DPNR, these water sources must, at a minimum, perform all water quality monitoring required for transient public water systems. Increased monitoring for chemical constituents can be required at the discretion of the Commissioner. The owner of the water source is responsible for completing the required water quality monitoring and reporting the results to DPNR as required by 40 C.F.R. 141.31. The distribution of water from an unregulated source to tankers and trucks for distribution for the purposes of human consumption is prohibited. The transportation of water from an unregulated source for use for human consumption is also prohibited.

§ 1303-21. Maximum contaminant levels for inorganic chemicals

- (a) The provisions of 40 C.F.R 141.11, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference with the following exception. The effective date for the arsenic MCL of January 23, 2006, is replaced by January 1, 2006.
- (b) The provisions of 40 C.F.R 141.62, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-22. Maximum contaminant levels for organic chemicals

The provisions of 40 C.F.R 141.61, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-23. Maximum contaminant levels for turbidity

The provisions of 40 CFR 141.13, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-24. Maximum microbiological contaminant levels

- (a) The provisions of 40 C.F.R. 141.63, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.
- (b) Maximum contaminant level goals for microbiological contaminants contained in 40 C.F.R. 141.52, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-25. Maximum contaminant levels for radionuclides

The provisions of 40 C.F.R. 141.66, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-26. Prohibition on the use of lead pipes, solder and flux

The provisions of 40 C.F.R. 141.43, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-27. Variances and exemptions from the Maximum Contaminant Levels for Regulated Contaminants

The provisions of 40 C.F.R. 142, Subparts E, F, and G, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-28. Use of Bottled Water

The provisions of 40 C.F.R. 141.101, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-29. Criteria and procedures for public water systems using point-of-entry devices

The provisions of 40 C.F.R. 141.100, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-30. Bottled water regulations

- (a) Product quality
 - (1) All bottled water shall be from a source that is in full compliance with the drinking water regulations and shall not contain any constituent in quantities that may be injurious to

health, as established by the DPNR and the Virgin Islands Safe Drinking Water Act. All bottled water shall meet standards prescribed by the DPNR.

(2) Bottled water shall not exceed any maximum contaminant levels established in Chapter 51 of the Virgin Islands Drinking Water Standards 19 VIR&R section 1303-2 et sec, or any other maximum contaminant level established by the EPA or DPNR under the Safe Drinking Water Act.

(b) Manufacturing practices and operational requirements

(1) All bottled water shall be filtered, processed and packaged in accordance with the Food and Drug Administration

(FDA) Good Manufacturing Practice Regulations (GMP's), 21 CFR Parts 110 and 129, and any other regulations prescribed by the DPNR or other authorized agencies.

(2) Bottled water production, including transporting, processing, packaging, and storage, shall be conducted under such conditions and controls as are necessary to minimize the potential for microbiological contamination of the finished product. These conditions and controls shall include the following:

(i) Bottled water shall be subject to effective germicidal treatment by ozonation or carbonation at a minimum of three (3) volumes of carbon dioxide or other equivalent disinfection approved by the DPNR.

(ii) Bottled water shall not be transported and stored in bulk tanks or processed or bottled through equipment of lines used for any non-food product.

(A) In order to minimize the potential for microbiological contamination of the finished product, non-carbonated bottled water shall not be transported, stored, processed, or bottled in or through lines or equipment through which has passed any food product other than water which is likely to contribute nutrients for microbiological growth.

(B) Bottled water shall not be transported, stored, processed, or bottled through lines or equipment through which any food product other than water has passed except under procedures approved by the DPNR that prevent the potential for microbiological contamination in bottled water.

(C) Where ozone is used as a germicidal agent for bottled water, all gaskets, o-rings, and similar flexible materials shall be made of silicon rubber,

teflon, or other ozone-resistant material. These flexible parts shall be replaced whenever they show evidence of surface deterioration.

- (3) Each bottled water plant operator and water dealer shall develop and maintain a procedure for product recall and implement that procedure for any product which the operator or dealer knows or has reason to believe may have been affected by the circumstances that may adversely affect safety for the consumer:

In order to facilitate product identification or recall, each bottled water product shall contain a unique code that is designed to remain affixed to the container during use and which contains either the date of manufacture or a lot or batch number (not extending for a period of longer than seven (7) days) and which identifies a specific set of primary containers or units of the same size, type and style produced under nearly uniform conditions. In addition, each bottled water product shall be affixed with a permanent date stamp indicating the date of bottling for that individual container (month and year).

- (4) Artesian water may be collected with the assistance of external force to enhance the natural underground pressure so long as such measures do not alter the physical properties, composition and quality of the water.

- (5) Natural water shall not be modified by blending with water of another type or by deletion or addition of dissolved solids except as related to disinfection or other treatment to reduce the concentration of any naturally-present constituent which exceeds government-sanctioned or approved safety standards or guidelines set forth by the DPNR. It may be collected and transported by pumps, pipes, tunnels, trucks or similar devices.

- (6) Spring water shall be collected only at the spring or through a bore hole that is adjacent to the point of emergence. Spring water collected with the assistance of external force to protect the water shall retain all the physical properties of and be of the same composition and quality as the water that flows naturally to the surface of the earth.

- (7) A bottled water plant shall be operated under the supervision of a competent person qualified by experience, education or training to operate and maintain the plant facilities. The person supervising plants operations must demonstrate to DPNR's satisfaction that she/he has the requisite competence. Proof of competency includes but is not limited to a demonstration that the person has received training or instruction, has work experience in or holds a certificate covering training in source and product sanitation, operation and maintenance of water treatment technology, and the maintenance and monitoring of source and product water quality in accordance with these bottled water standards.

(c) Source water monitoring

(1) The plant operator shall be responsible for sampling and analysis of all approved sources for the contaminants specified in the Virgin Islands Safe Drinking Water Act to assure that product water derived from approved sources continues to comply with the Primary Drinking Water Standards. Such monitoring shall be done in accordance with the regulations for community public water systems set forth in the Virgin Islands Safe Drinking Water Act.

(2) In lieu of source monitoring required by this section and the DPNR, a plant operator using a public water system as its source may obtain and display a certificate from the system demonstrating that the public water system conducts the required monitoring.

(3) Where a bottled water plant operator, water dealer or regulatory agency (specifically DPNR) knows or has reason to believe that a contaminant not otherwise monitored is present in the source water due to a spill, release of hazardous substance, or otherwise, and its presence would create a potential health hazard to consumers, the plant operator or water dealer, upon such information, shall monitor the source water for the contaminant, and shall cease operation upon confirmation that the source has been contaminated.

(4) Detection of contaminants in source monitoring required by Section 1303 shall be followed immediately by a program of periodic monitoring to confirm the presence in the source water of said contaminants. If such listed, unregulated contaminants are confirmed to be present in the source water as to exceed a published US EPA Health Advisory or US FDA Action Level or DPNR determination of acute health risk for drinking water, the plant operator or water dealer shall employ appropriate treatment techniques to remove or to reduce said contaminant in the product water below the concentration and shall employ a program of periodic monitoring for the contaminant in the source water until such time as the contaminant is not detectable in the source water.

(5) The required source water sampling shall be performed by qualified personnel and required analysis shall be performed by an approved laboratory. Records of the required sampling and analyses shall be maintained on file at the plant for not less than five (5) years and shall be available for official review upon the request of DPNR.

(d) Finished product monitoring

(1) To assure that bottled water complies with the Virgin Islands Safe Drinking Water Act, the following product monitoring using representative samples derived from the bottled product shall be performed:

(i) For microbiological contaminants specified in the Virgin Islands Safe Drinking

Water Act, analyze weekly
a representative sample from a batch or segment of continuous production for each
type of bottled water produced at the plant.

(ii) For chemical, physical and radiological contaminants specified in the Virgin
Islands Safe Drinking Water Act, analyze annually a representative sample from a
batch or segment of continuous production, run for each type of bottled water
produced by the plant.

(2) The required product water sampling shall be performed by qualified personnel and
required analyses shall be performed by a certified laboratory.

(3) Records of required sampling and analysis shall be maintained at the plant not less than
five years and shall be available for official review upon request of DPNR.

(e) Labeling Requirements

(1) All bottled water shall conform to applicable territorial and federal labeling laws and
regulations.

(2) Printed information or graphics relative to recognized uses of the water shall not imply
properties of the product or preparation methods which are not factual.

(3) The term "pure" may appear on the label only when used to identify the contents as
"purified water". Where the term is used, the method of preparation shall be stated on the
label. For purposes of this section "pure or purified water" means bottled water produced by
distillation, deionization, reverse osmosis, or other suitable process and that meets the
definition of purified water in the most recent edition of the United States Pharmacopeia.

§ 1303-41. Microbiological contaminant sampling and analytical requirements

The provisions of 40 CFR 141.21 are not adopted by reference and are replaced by the following:

(a) Routine Monitoring:

(1) All community and non-community water systems within sixty (60) days of the
effective date of these regulations shall submit to DPNR a site plan for collecting samples.

(2) The site plan must include an accurate diagram of the configuration of the system.

(3) The site plan must demonstrate that the sites selected are representative of the water

throughout the distribution system.

(4) Public water systems shall mail or deliver site plans to the Department of Planning & Natural Resources, Public Water Supply Supervision Program, Division of Environmental Protection. For the St. Croix Systems site plans should be sent to the St. Croix office, and for St. Thomas or St. John systems site plans should be sent to the St. Thomas office.

(5) Upon approval of a site plan, DPNR shall stamp the plan and return it by mail to the water system within thirty (30) days of receipt.

(6) If DPNR cannot approve the site plan, DPNR shall return the plan with a written explanation of the deficiencies and instructions for their correction. Upon notification of DPNR's disapproval of a site plan, the water system has fifteen (15) days to revise and resubmit the plan to DPNR.

(7) If after resubmission a site plan is not approved by DPNR, DPNR may consider the water system to be out of compliance with the requirements of this section.

(8) If the resubmitted site plan is disapproved, DPNR retains the right to modify the plan; and the water supplier shall implement the plan as modified by DPNR. DPNR is the final arbiter in any dispute regarding the adequacy of any site plan and any activities performed under this section, and shall resolve any such dispute in the best interest of the public. DPNR retains the right to modify an approved site plan as required to abate water contamination. Notwithstanding, DPNR shall provide the water system an opportunity for a hearing on the matter.

(9) A public water system shall maintain as approved site plan at the system's premises or at a location readily accessible to the system and to DPNR's personnel.

(10) If a water system plans to modify the configuration of the system, the owner or operator of the system shall notify DPNR and submit a revised site plan to reflect the modification within sixty (60) days of such planned modification in accordance with the procedures established under paragraphs 2-8 of this subsection.

(11) DPNR shall routinely review site plans during sanitary surveys and site visits and as the Commissioner finds necessary to protect the public health.

(12) A public water system shall collect total coliform samples at sites that are representative of the water throughout the distribution system according to a written sample site plan.

United States Virgin Islands
Primary Drinking Water Standards

(b) Total Coliform Monitoring Frequency for Community Water Systems.

The monitoring frequency for total coliforms for community water systems is based on the population served by the system, as follows:

Total Coliform Monitoring Frequency For Community Water Systems	
Population served	Minimum number of samples per month
20 to 1,000 ¹	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300

United States Virgin Islands
Primary Drinking Water Standards

Total Coliform Monitoring Frequency For Community Water Systems	
Population served	Minimum number of samples per month
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

1. Includes Public Water Supplies which have at least eight (8) service connections, but serve fewer than twenty (20) persons.

(c) Monitoring for Non-Community Systems

The monitoring frequency for total coliforms for non-community water systems is as follows:

- (1) A non-community water system using only ground water (except ground water under the direct influence of surface water, as defined in 40 CFR 141.2) and serving one-thousand (1,000) persons or fewer shall monitor each calendar quarter that the system provides water to the public.
- (2) A non-community water system using only ground water (except ground water under the direct influence of surface water, as defined in 40 CFR 141.2) and serving more than one-thousand (1,000) persons during any month shall monitor at the same frequency as a like-sized community water system, as specified in this section under (b). For systems using ground water under the direct influence of surface water, paragraph (4) of this section applies.
- (3) A non-community water system using surface water, in total or in part, shall monitor at the same frequency as a like-sized community water system, as specified in this section under (b) regardless of number of persons served.
- (4) A non-community water system using ground water under the direct influence of surface water, as defined in 40 CFR 141.2, shall monitor at the same frequency as a like-sized community water system, as specified in this section under (b). The system shall begin monitoring at this frequency beginning three (3) months after DPNR determines that the ground water is under the direct influence of surface water.
- (5) The public water system shall collect samples at regular time intervals throughout the month, except that a system which uses only ground water (except ground water under the influence of surface water, as defined in 40 CFR 141.2), and serves four-thousand and nine-hundred (4,900) persons or fewer, may collect all required samples on a single day if they are

taken from different sites, and DPNR does not prescribe a different schedule of sampling.

(6) A public water system that uses surface water or ground water under the direct influence of surface water, as defined in 40 CFR 141.2, and does not practice filtration in compliance with Subpart H of 40 CFR shall collect at least one sample near the first service connection each day the turbidity level of the source water, measured as specified in 40 CFR 141.74(b)(2), exceeds 1 NTU. This sample must be analyzed for the presence of total coliforms. When one or more turbidity measurements in any day exceed 1 NTU, the system shall collect this coliform sample within twenty-four (24) hours of the first exceedance. Sample results from this coliform monitoring are included in determining compliance with the MCL for total coliforms in 40 CFR 141.63.

(d) Special Purpose Samples.

Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair are not used to determine compliance with the MCL for total coliforms in 40 CFR 141.63. Repeat and DPNR collected surveillance samples taken pursuant to paragraph (e) of this section are not considered special purpose samples, and must be used to determine compliance with the MCL for total coliforms in 40 CFR 141.63.

(e) Repeat Monitoring.

For the purpose of these rule and regulations "force majeure" means any cause which prevents performance of any of the activities under these rules and regulations due to causes which are outside the control of the public water system and cannot be avoided by the exercise of reasonable diligence, and includes: Acts of God-acts occasioned exclusively by violence of nature without the interference of any human agency; war; riot and strikes.

(1) If a routine or surveillance monitoring sample collected by DPNR is total coliform-positive, the public water system shall collect a set of repeat samples within twenty-four (24) hours of being notified of the positive result. DPNR shall waive the twenty-four (24) hour resampling period when a force majeure event occurs. DPNR shall extend the time of resampling to the first business day after the force majeure event is over. A system that collects more than one (1) routine sample/month shall collect no fewer than three (3) repeat samples for each total coliform-positive sample found. A system that normally collects one (1) routine sample/month or fewer shall collect no fewer than four (4) repeat samples for each total coliform-positive sample found.

(2) The system shall collect at least one (1) repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one (1) repeat sample at a tap within five (5) service connections upstream and at least one (1) repeat sample at a tap within five (5) service connections downstream of the original sampling site.

(3) The system shall collect all repeat samples on the same day, except that a system with a single service connection shall collect the required set of repeat samples over a four-day period or subject to DPNR's approval, may collect a larger volume repeat sample(s) in one (1) or more sample containers of any size, as long as the total volume collected is at least 400ml (300ml for systems which collect more than one (1) routine sample/month).

(4) If one (1) or more repeat samples in the set is total coliform-positive, the public water system shall collect an additional set of repeat samples in the manner specified in paragraphs (e)(1)-(3) of this section. The additional samples must be collected within twenty-four (24) hours of being notified of the positive result. DPNR shall waive the twenty-four (24) hour resampling period in an event of force majeure. DPNR shall extend the time for resampling to the first business day after the force majeure event is over. The system shall repeat this process until either total coliforms are not detected in one complete set of repeat samples or the system determines that the MCL for total coliforms in 40 CFR 141.63 has been exceeded and notifies DPNR.

(5) If a system collecting fewer than five (5) routine samples/month has one (1) or more total coliform-positive samples and DPNR does not invalidate the sample(s) under paragraph (f) of this section, the system shall collect at least five (5) routine samples during the next month the system provides water to the public.

(6) After a system collects a routine sample, and before it learns the results of the analysis of that sample, if it collects another routine sample(s) from within five (5) adjacent service connections of the initial sample, and the initial sample after analysis is found to contain total coliforms, then the system may count the subsequent sample(s) as a repeat sample instead of as a routine sample.

(7) In determining compliance with the MCL for total coliforms in 40 CFR 141.63(a), DPNR shall include results of all routine and repeat samples, DPNR-collected surveillance samples and all samples that have not been invalidated.

(f) Invalidation of total coliform samples.

A total coliform-positive sample invalidated under this paragraph does not count towards meeting the minimum monitoring requirements of this section.

(1) DPNR shall invalidate a total coliform-positive sample only if the conditions of paragraph (i), (ii), or (iii) of this section are met. DPNR may not invalidate a total coliform-positive sample solely on the ground that all repeat samples are total coliform-negative.

(i) The laboratory establishes that improper sample analysis caused the total

coliform-positive result.

(ii) DPNR on the basis of the results of repeat samples collected as required by paragraphs (1)-(4) of this section under (e), determines that the total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem. DPNR may not invalidate a sample on the basis of repeat sample results, unless all repeat samples collected at the same tap as the original total coliform-positive sample are also total coliform-positive, and all repeat samples collected within five (5) service connections of the original tap are total coliform-negative (e.g., DPNR shall invalidate a total coliform-positive sample on the basis of repeat samples if all the repeat samples are total coliform-negative, or if the public water system has only one (1) service connection).

(iii) DPNR has substantial grounds to believe that a total coliform-positive result is due to a circumstance or a condition which does not reflect water quality in the distribution system. In this case, the system shall still collect all repeat samples required under paragraphs (1)-(4) of this section under (e), and use them to determine compliance with the MCL for total coliforms in 40 CFR 141.63.

(iv) To invalidate a total coliform-positive sample under this subsection, the Commissioner shall issue a written, signed Notice of Invalidation, which states the specific cause of the total coliform invalidation and specifies the actions taken or to be taken by the system to correct the problem. The Notice of Invalidation must be made available to EPA and the public.

(2) A laboratory shall invalidate a total coliform sample (unless total coliforms are detected) if the sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined (e.g., the Multiple-Tube Fermentation Technique), produces a turbid culture in the absence of an acid reaction in the Presence-Absence (P-A) Coliform Test, or exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter (e.g. Membrane Filter Technique). If a laboratory invalidates a sample because of such interference, the system shall collect another sample from the same location as the original sample within twenty-four (24) hours of being notified of the interference problem, and have it analyzed for the presence of total coliforms. The system shall continue to re-sample within twenty-four (24) hours and have the samples analyzed until it obtains a valid result. The Commissioner shall waive the twenty-four (24) hour time limit for reasons of force majeure on a case by case basis.

(g) Sanitary Surveys.

(1) Public water systems which do not collect five or more routine samples/month shall

undergo an initial sanitary survey by June 29, 1994 for community public water systems and June 24, 1996 for non-community water systems. Thereafter, a system shall undergo another sanitary survey every five years. DPNR shall review the results of each sanitary survey to determine whether the existing monitoring frequency is adequate and what additional measures, if any, the system needs to undertake to improve drinking water quality.

(2) In conducting a sanitary survey of a system using ground water in a State having an EPA-approved wellhead protection program under section 1428 of the Safe Drinking Water Act, information on sources of contamination within the delineated wellhead protection area that was collected in the course of developing and implementing the program should be considered instead of collecting new information, if the information was collected since the last time the system was subject to a sanitary survey.

(3) Sanitary surveys shall be performed by DPNR personnel.

(h) Fecal coliforms/*Escherichia coli* (*E. coli*) testing.

(1) If any routine, repeat, or DPNR collected surveillance sample is total coliform-positive, the system or DPNR, as appropriate, shall analyze that total coliform-positive culture medium to determine if fecal coliforms are present, except that the system may test for *E. Coli* in lieu of fecal coliforms. If fecal coliforms or *E. Coli* are present, the system shall notify DPNR by the end of the day when the system is notified of the test result. If the system is notified of the result after the DPNR office is closed, the system shall notify DPNR before the end of the next business day.

(i) Analytical methodology.

(1) The standard sample volume required for total coliform analysis regardless of analytical method used is 100ml.

(2) A public water system need only determine the presence or absence of total coliforms. A determination of total coliform density is not required.

(3) Public water systems must conduct total coliform analyses in accordance with one of the analytical methods in the following table.

United States Virgin Islands
Primary Drinking Water Standards

Organism	Methodology ¹²	Citation ¹
	Total Coliform Fermentation Technique ^{3,4,5}	9221A, B.
	Total Coliform Membrane Filter Technique ⁶	9222A, B, C
	Presence-Absence (P-A) Coliform Test ^{5,7}	9221D.
	ONPG-MUG Test ^{6,8}	9223.
	Colisure Test ⁹	
	E*Colite® Test ¹⁰	
	m-ColiBlue® Test ¹¹	
	Readycult® Coliforms 100 Presence/Absence Test ¹³	
	Membrane Filter Technique using Chromocult® Coliform Agar ¹⁴	
Total Coliforms ²		

The procedures shall be done in accordance with the documents listed below. The incorporation by reference of the following documents listed in footnotes 1, 6, 8, 9, 10, 11, 13 and 14 was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of the documents may be obtained from the sources listed below. Information regarding obtaining these documents can be obtained from the Safe Drinking Water Hotline at 800-426-4791. Documents may be inspected at EPA's Drinking Water Docket, EPA West, 1301 Constitution Avenue, NW, EPA West, Room B102, Washington DC 20460 (Telephone: 202-566-2426); or at the Office of Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, D.C. 20408.

¹ Standard Methods for the Examination of Water and Wastewater, 18th edition (1992), 19th edition (1995), or 20th edition (1998). American Public Health Association, 1015 Fifteenth Street, NW, Washington, DC 20005. The cited methods published in any of these three editions may be used.

² The time from sample collection to initiation of analysis may not exceed 30 hours. Systems are encouraged but not required to hold samples below 10 deg. C during transit.

³ Lactose broth, as commercially available, may be used in lieu of lauryl tryptose broth, if the system conducts at least 25 parallel tests between this medium and lauryl tryptose broth using the water normally tested, and this comparison demonstrates that the false-positive rate and false-negative rate for total coliform, using lactose broth, is less than 10 percent.

⁴ If inverted tubes are used to detect gas production, the media should cover these tubes at least one-half to two-thirds after the sample is added.

⁵ No requirement exists to run the completed phase on 10 percent of all total coliform-positive confirmed tubes.

⁶ MI agar also may be used. Preparation and use of MI agar is set forth in the article, "New medium for the simultaneous detection of total coliform and *Escherichia coli* in water" by Brenner, K.P., et al., 1993, Appl. Environ. Microbiol. 59:3534-3544. Also available from the Office of Water Resource Center (RC-4100T), 1200 Pennsylvania Avenue, NW, Washington DC, 20460, EPA/600/J-99/225. Verification of colonies is not required.

⁷ Six-times formulation strength may be used if the medium is filter-sterilized rather than autoclaved.

⁸ The ONPG-MUG Test is also known as the Autoanalysis Colilert System.

⁹ A description of the Colisure Test, Feb 28, 1994, may be obtained from IDEXX Laboratories, Inc., One IDEXX Drive, Westbrook, Maine 04092. The Colisure Test may be read after an incubation time of 24 hours.

¹⁰ A description of the E*Colite® Test, "Presence/Absence for Coliforms and *E. coli* in Water," Dec 21, 1997, is available from Charm Sciences, Inc., 36 Franklin Street, Malden, MA 02148-4120.

¹¹ A description of the m-ColiBlue24® Test, Aug 17, 1999, is available from the Hach Company, 100 Dayton Avenue, Ames, IA 50010.

¹² EPA strongly recommends that laboratories evaluate the false-positive and negative rates for the method(s) they use for monitoring total coliforms. EPA also encourages laboratories to establish false-positive and false-negative rates within their own laboratory and sample matrix (drinking water or source water) with the intent that if the method they choose has an unacceptable false-positive or negative rate, another method can be used. The Agency suggests that laboratories perform these studies on a minimum of 5% of all total coliform-positive samples, except for those methods where verification/confirmation is already required, e.g., the M-Endo and LES Endo Membrane Filter Tests, Standard Total Coliform Fermentation Technique, and Presence-Absence Coliform Test. Methods for establishing false-positive and negative-rates may be based on lactose fermentation, the rapid test for -galactosidase and cytochrome oxidase, multi-test identification systems, or equivalent confirmation tests. False-positive and false-negative information is often available in published studies and/or from the manufacturer(s).

United States Virgin Islands
Primary Drinking Water Standards

¹³ The ReadyCult® Coliforms 100 Presence/Absence Test is described in the document, "ReadyCult® Coliforms 100 Presence/Absence Test for Detection and Identification of Coliform Bacteria and *Escherichia coli* in Finished Waters", November 2000, Version 1.0, available from EM Science (an affiliate of Merck KGaA, Darmstadt Germany), 480 S. Democrat Road, Gibbstown, NJ 08027-1297. Telephone number is (800) 222-0342, e-mail address is: adellenbusch@emscience.com.

¹⁴ Membrane Filter Technique using Chromocult® Coliform Agar is described in the document, "Chromocult® Coliform Agar Presence/Absence Membrane Filter Test Method for Detection and Identification of Coliform Bacteria and *Escherichia coli* in Finished Waters", November 2000, Version 1.0, available from EM Science (an affiliate of Merck KGaA, Darmstadt Germany), 480 S. Democrat Road, Gibbstown, NJ 08027-1297. Telephone number is (800) 222-0342, e-mail address is: adellenbusch@emscience.com.

(4) [Reserved]

(5) Public water systems shall conduct fecal coliform analysis in accordance with the following procedures. When the MTF Technique or Presence-Absence (P-A) Coliform Test is used to test for total coliforms, shake the lactose-positive presumptive tube or P-A bottle vigorously and transfer the growth with a sterile 3mm loop or sterile applicator stick into a brilliant green lactose bile broth and EC medium to determine the presence of total and fecal coliforms, respectively. For EPA-approved analytical methods which use a membrane filter, remove the membrane containing the total coliform colonies from the substrate with a sterile forceps and carefully curl and insert the membrane into a tube of EC medium. (The laboratory may first remove a small portion of selected colonies for verification). Gently shake the inoculated EC tubes to insure adequate mixing and incubate in a water bath at $44.5 \pm 0.2^{\circ}\text{C}$ for twenty-four (24) \pm two (2) hours. Gas production of any amount in the inner fermentation tube of the EC medium indicates a positive fecal coliform test. The preparation of EC medium is described in the 18th edition of Standard Methods for the Examination of Water and Wastewater, 1992, Method 9221E -- pp. 9-52, paragraph 1a. Public water systems need only determine the presence or absence of fecal coliforms; a determination of fecal coliform density is not required.

(6) Public water systems must conduct analysis of *Escherichia Coli* in accordance with one of the following analytical methods:

(i) EC medium supplemented with 50 $\mu\text{g/ml}$ of 4-methylumbelliferyl-beta-D-glucuronide (MUG) (final concentration). EC medium is described in the 18th edition of Standard Methods for the Examination of Water and Wastewater, 1992, Method 9221E-p.9-52, paragraph 1a. MUG may be added to the EC medium before autoclaving. EC medium supplemented with 50 $\mu\text{g/ml}$ of MUG is commercially available. At least 10 ml of EC medium supplemented with MUG must be used. The inner inverted fermentation tube may be omitted. The procedure for transferring a total coliform-positive culture to EC medium supplemented with MUG shall be as specified in paragraph (i)(5) of this section for transferring a total coliform-positive culture to EC medium. Observe fluorescence with an ultraviolet light (366 nm) in the dark after incubating the tube at $44.5 \pm 0.2^{\circ}\text{C}$ for 24 \pm 2 hours; or

- (ii) Nutrient agar supplemented with 100 µg/ml 4-methylumbelliferyl-beta-D-glucuronide (MUG) (final concentration). Nutrient agar is described in the 18th edition of Standard Methods for the Examination of Water and Wastewater, 1992, p.9-47 to 9-48. This test is used to determine if a total coliform-positive sample, as determined by the Membrane Filter Technique or any other method in which a membrane filter is used, contains E. Coli. Transfer the membrane filter containing a total coliform colony(ies) to nutrient agar supplemented with 100 µg/ml (final concentration) of MUG. After incubating the agar plate at 35 °C for 4 hours, observe the colony(ies) under ultraviolet light (366nm) in the dark for fluorescence. If fluorescence is visible, E. Coli are present.
- (iii) Minimal medium ONPG-MUG (MMO-MUG) Test, as set forth in the article "National Field Evaluation of a Defined Substrate Method for the Simultaneous Detection of Total Coliforms and E. Coli from Drinking Water: Comparison with Presence-Absence Techniques" (Edberg et al.), Applied and Environmental Microbiology, Volume 55, pp. 1003-1008, April 1989. (Note: The Autoanalysis Colilert System is an MMO-MUG test). If the MMO-MUG test is total coliform-positive after a 24-hour incubation, test the medium for fluorescence with a 366-nm ultraviolet light (preferably with a 6-watt lamp) in the dark. If fluorescence is observed, the sample is E. Coli- positive. If fluorescence is questionable (cannot definitively read) after 24 hours incubation, incubate the culture for an additional 4 hours (but not to exceed 28 hours total), and again test the medium for fluorescence. The MMO-MUG Test with the hepes buffer in lieu of the phosphate buffer is the only approved formulation for the detection of E. Coli.
- (iv) The Colisure Test. A description of the Colisure Test may be obtained from the Millipore Corporation, Technical Services Department, 80 Ashby Road, Bedford, MA 01730.
- (v) The membrane filter method with MI agar, a description of which is cited in footnote 6 to the table in paragraph (i)(3).
- (vi) E*Colite® Test, a description of which is cited in footnote 11 to the table a in paragraph (i)(3) of this section.
- (vii) m-ColiBlue® Test, a description of which is cited in footnote 11 to the table in paragraph (i)(3) in this section.
- (7) As an option to paragraph (i)(6)(iii) of this section, a system with a total coliform-positive, MUG-negative, MMO-MUG test may further analyze the culture for the presence of E. Coli by transferring a 0.1 ml, 28-hour MMO-MUG culture to EC medium + MUG with a pipette. The formulation and incubation conditions of EC medium + MUG, and observation

of the results are described in paragraph (i)(6)(i) of this section.

(8) The following materials are incorporated by reference in this section with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of the analytical methods cited in Standard Methods for the Examination of Water and Wastewater (18th, 19th, and 20th editions) may be obtained from the American Public Health Association et al.; 1015 Fifteenth Street, NW., Washington, DC 20005-2605. Copies of the MMO-MUG Test, as set forth in the article "National Field Evaluation of a Defined Substrate Method for the Simultaneous Enumeration of Total Coliforms and Escherichia coli from Drinking Water: Comparison with the Standard Multiple Tube Fermentation Method" (Edberg et al.) may be obtained from the American Water Works Association Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235. Copies of the MMO-MUG Test as set forth in the article "National Field Evaluation of a Defined Substrate Method for the Simultaneous Enumeration of Total Coliforms and Escherichia coli from Drinking Water: Comparison with the Standard Multiple Tube Fermentation Method" (Edberg et al.) may be obtained from the American Water Works Association Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235. A description of the Colisure Test may be obtained from the Millipore Corp., Technical Services Department, 80 Ashby Road, Bedford, MA 01730. Copies may be inspected at EPA's Drinking Water Docket; 401 M St., SW.; Washington, DC 20460, or at the Office of the Federal Register; 1100 L Street, NW.; Room 8401; Washington, DC 20408.

(j) Response to violation.

(1) A public water system that has exceeded the MCL for total coliforms in 40 CFR 141.63 shall report the violation to DPNR no later than the end of the next business day after the system learns of the violation, and shall notify the public in accordance with Subpart Q of the 40 CFR.

(2) The public water system that has failed to comply with the sampling site plan requirements and required monitoring shall report the violation to DPNR within two (2) days after the system discovers, or should have discovered, the violation and shall notify the public in accordance with Subpart Q of the 40 CFR.

§ 1303-42. Inorganic chemical sampling and analytical requirements

Each person who operates a public water supply system shall comply with the sampling and analytical requirements specified in 40 CFR 141.23, as in effect on July 1, 2008 and annually thereafter and hereby adopted by reference with the following exception. The effective date for the arsenic MCL of January 23, 2006, is replaced by January 1, 2006.

§ 1303-43. Organic chemicals other than trihalomethanes, sampling and analytical requirements

The provisions of 40 CFR 141.24, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-44. Analytical methods for radioactivity

The provisions of 40 C.F.R 141.25, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-45. Monitoring frequency for radioactivity in community water systems

The provisions of 40 C.F.R 141.26, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-46. Alternative analytical technique

The provisions of 40 C.F.R 141.27, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-47. Approved laboratories

The provisions of 40 C.F.R 141.28, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-48. Monitoring of consecutive public water systems

The provisions of 40 C.F.R 141.29, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-49. Reporting requirements

(a) The provisions of 40 CFR 141.31, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

(b) The provisions of 40 CFR 141.90, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-50. Record maintenance

The provisions of 40 C.F.R 141.33, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-51. Special monitoring for sodium

The provisions of 40 C.F.R 141.41, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§ 1303-52. Special monitoring for corrosivity characteristics

The provisions of 40 C.F.R 141.42, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-53. General requirements for the control of lead and copper

The provisions of 40 C.F.R 141.80, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-54. Applicability of corrosion control treatment steps to small, medium-size and large water systems for the control of lead and copper

The provisions of 40 C.F.R 141.81, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-55. Description of corrosion control treatment requirements for the control of lead and copper

The provisions of 40 C.F.R 141.82, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-56. Source water treatment requirements for the control of lead and copper

The provisions of 40 C.F.R 141.83, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-57. Lead service line replacement requirements for the control of lead and copper

The provisions of 40 C.F.R 141.84, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-58. Public education and supplemental monitoring requirements for the control of lead and copper

The provisions of 40 C.F.R 141.85, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-59. Monitoring requirements for lead and copper in tap water

The provisions of 40 C.F.R 141.86, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-60. Monitoring requirements for water quality parameters for the control of lead and copper

The provisions of 40 C.F.R 141.87, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-61. Monitoring requirements for lead and copper in source water

The provisions of 40 C.F.R 141.88, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-62. Analytical methods for the control of lead and copper

The provisions of 40 C.F.R 141.89, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-63. Maximum contaminant levels for disinfection byproducts

The provisions of 40 C.F.R 141.64, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-64. Maximum residual disinfectant levels

The provisions of 40 C.F.R 141.65, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-65. General requirements for filtration and disinfection

The provisions of 40 C.F.R 141.70, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-66. Criteria for avoiding filtration

The provisions of 40 C.F.R 141.71, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-67. Disinfection

The provisions of 40 C.F.R 141.72, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-68. Filtration

The provisions of 40 C.F.R 141.73, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-69. Filtration and disinfection: analytical and monitoring requirements

The provisions of 40 C.F.R 141.74, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-70. Filtration and disinfection: reporting and recordkeeping requirements

The provisions of 40 C.F.R 141.75, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-71. Filter recycling requirements

The provisions of 40 C.F.R 141.76, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-72. Recordkeeping requirements for lead and copper control

The provisions of 40 C.F.R 141.91, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.

§1303-73. General requirements for treatment techniques

The provisions of 40 C.F.R 141.110, as in effect on July 1, 2008 and annually thereafter, are hereby adopted by reference.